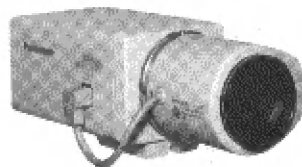
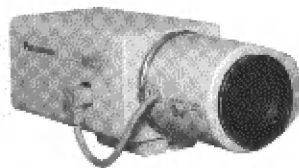


# Operating Instructions

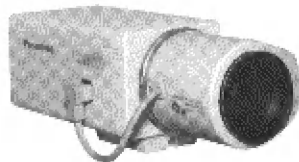
## Color CCTV Cameras WV-CP220/WV-CP222/WV-CP224



WV-CP220



WV-CP222



WV-CP224

(Lens : option)

# Panasonic®

Before attempting to connect or operate this product,  
please read these instructions completely.

**CAUTION**RISK OF ELECTRIC SHOCK  
DO NOT OPEN**CAUTION:**

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE.  
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



SA 1965

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



SA 1966

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

**WARNING:**

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

—For U.S.A.—

**Warning:**

This equipment generates and uses radio frequency energy and if not installed and used properly, i.e., in strict accordance with the instruction manual, may cause harmful interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment.

The serial number of this product may be found on the top of the unit.

You should note the serial number of this unit in the space provided and retain this book as a permanent record of your purchase to aid identification in the event of theft.

Model No. \_\_\_\_\_

Serial No. \_\_\_\_\_

# CONTENTS

PREFACE .....	2
FEATURES .....	2
PRECAUTIONS .....	3
MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS .....	4
CONNECTIONS .....	7
LENSES .....	10
INSTALLATION OF CAMERA .....	16
FOCUS OR FLANGE-BACK ADJUSTMENT .....	17
PREVENTION OF BLOOMING AND SMEAR .....	17
LENS MAINTENANCE AND CLEANING .....	17
SPECIFICATIONS .....	18
STANDARD ACCESSORY .....	19
OPTIONAL ACCESSORIES .....	19

## PREFACE

Panasonic's WV-CP220 Series camera introduce a new low end color camera through the use of 1/3 inch inter-line transfer CCD.

Minimum illumination is achieved 0.5 lx with the use of newly developed aspherical high speed lenses.

ATW (Automatic Tracing White Balance) System is incorporated into the WV-CP220 series. This system has a color temperature sensor for accurate detection of light source color temperatures projected onto objects without affect of ambient temperatures and light intensity according to the angle of incident.

In addition, ability to shoot indoor scenes with a fixed iris lens by use of Electronic Light Control (ELC) function.

The built-in AGC (Automatic Gain Control) allows to obtain a clear picture under the low light condition.

## FEATURES

- Minimum illumination of 0.5 lx at F0.75 [equivalent 1.5 lx at F1.4] and Signal-to-Noise ratio of 46 dB by employing a 1/3 inch interline transfer CCD image sensor with 512 (H) x 492 (V) pixels.
- 330 lines of horizontal resolution
- Optional C-mount lens can be used together with optional Lens Mount Converter (C-mount adaptor) WV-AD20.
- Selectable internal sync (INT), line-locked sync (LL) or Multiplexed Vertical Drive (VD2) for WV-CP220/WV-CP224.
- Automatic Gain Control (AGC) (+15dB) and Automatic Tracing White Balance Control (ATW) are built-in.

## PRECAUTIONS

- **Do not attempt to disassemble the camera.**

To prevent electric shock, do not remove screws or cover. There are no user-serviceable parts inside.

Refer servicing to qualified service personnel.

- **Handle the camera with care.**

Do not abuse the camera. Avoid striking or shaking it. The camera could be damaged by improper handling or storage.

- **Do not expose the camera to rain or moisture, or try to operate it in wet areas.**

Do take immediate action if ever the camera do becomes wet. Turn power off and refer servicing to qualified service personnel. Moisture can damage the camera and also create the danger of electric shock.

- **Never face the camera toward the sun.**

Whether the camera is in use or not, never face it toward the sun. Do use caution when operating the camera in the vicinity of spot lights or other bright lights and light reflecting objects.

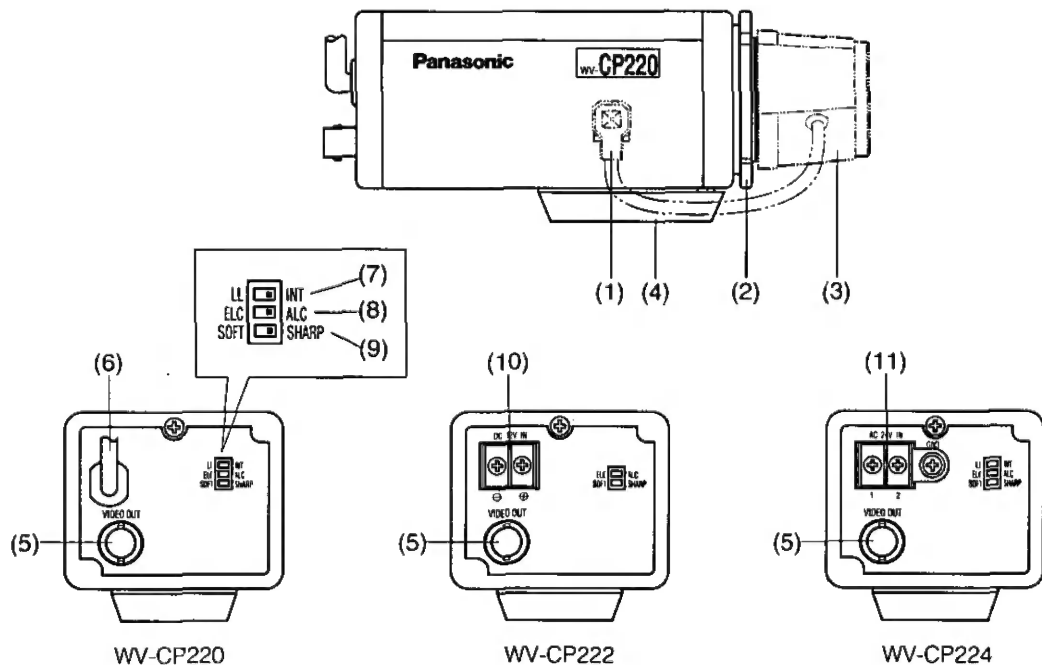
- **Do not operate the camera beyond its temperature, humidity or power source ratings.**

Do not use the camera in an extreme environment where high temperature or high humidity exist. Use the camera under conditions where temperatures are within  $-10^{\circ}\text{C}$  -  $+50^{\circ}\text{C}$  ( $14^{\circ}\text{F}$  -  $122^{\circ}\text{F}$ ), and humidity is below 90%. The input power source is 120V AC 60 Hz for WV-CP220, 12V DC for WV-CP222 or 24V AC 60 Hz for WV-CP224.

**Caution:**

To prevent fire or shock hazard, the UL listed wire VW-1, style 1007 should be used for DC 12V or AC 24V Input Terminal.

# MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS



**(1) Auto Iris Lens Connector**

This 4-pin connector supplies the power and DC control signal to the auto iris lens.

**(2) Flange-back Adjusting Ring**

This ring is used to adjust the back focal length or picture focus by rotating this ring.

**(3) Lens (Option)**

See page 10, 11, 12, 13 and 14 for details on lens selection. Standard C-mount lens can be used with the camera by use of optional lens mount converter (C-mount adaptor) WV-AD20.

**(4) Camera Mounting Screw Hole**

This threaded hole (1/4" - 20) is used to mount the camera onto a mounting bracket or tripod.

**(5) Video Output Connector (VIDEO OUT)**

A 1.0 V[p-p] / 75Ω composite video signal is provided at this connector.

Whenever the multiplexed vertical drive (VD2) signal is supplied to this connector, the camera synchronization mode is automatically set to Vertical Drive Lock.

**(6) AC Power Cord**

**(7) Sync Selection Switch (LL/INT)  
(WV-CP220/WV-CP224)**

This switch is used to select the camera synchronization mode.

**INT:** The camera synchronization mode is set to internal 2 : 1 interlace.

**LL:** The camera synchronization mode is set to Line-lock.

**(8) Electronic Light Control/Automatic Light Control Selection Switch (ELC / ALC)**

This switch is used to select the lens as follows.

**ALC:** Choose this position when using an auto iris lens.

**ELC:** Choose this position when using a fixed or manual iris lens.

**(9) Detail level Selection Switch (SOFT/SHARP)**

The detail/aperture level can be selected by this switch. Set the switch to the desired position while observing the picture on the monitor.

**Note:** Usually set this switch to SHARP position. When Quad System is connected to this camera, set this switch to SOFT position.

**(10) DC 12V In Terminal (DC 12V IN)**

This terminal accepts 12V DC power source (10.5V - 16V).

**Cautions:**

1. Connect this to a 12V DC class 2 power supply only.
2. To prevent fire or shock hazard, the UL listed wire VW-1, style 1007 should be used for the cable for DC 12V Input Terminal.

**(11) AC 24V In Terminal (AC 24V IN)**

This terminal accepts 24V AC power source (19.5V - 28V). Be sure to connect grounding lead to the GND terminal.

**Cautions:**

1. Connect this to a 24V AC class 2 power supply only.
2. To prevent fire or shock hazard, the UL listed wire VW-1, style 1007 should be used for the cable for AC 24V Input Terminal.



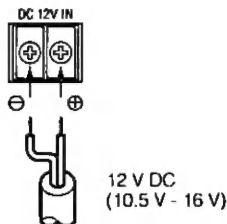
## CONNECTIONS

### A. WV-CP220

1. Connect the AC Power Cord to a electrical outlet of 120V AC 60 Hz.

### B. WV-CP222

1. A power supply of 12V DC is required.
2. Connect the power cable to the DC 12V In Terminal on the rear panel of the camera.



Resistance of copper wire (at 20°C)

Copper wire size (AWG)	#24 (0.22mm <sup>2</sup> )	#22 (0.33mm <sup>2</sup> )	#20 (0.52mm <sup>2</sup> )	#18 (0.83mm <sup>2</sup> )
Resistance Ω/m	0.078	0.050	0.030	0.018
Resistance Ω/ft	0.257	0.165	0.099	0.059

- Calculation method of maximum cable length between camera and power supply.

$$10.5V DC \leq V_A - (R \times 0.42 \times L) \leq 16V DC$$

L : Cable length (m)

R : Resistance of copper wire (Ω/m)

V<sub>A</sub> : DC output voltage of power supply unit

$$L_{\text{standard}} = \frac{V_A - 12}{0.42 \times R} \quad (\text{m})$$

$$L_{\text{minimum}} = \frac{V_A - 16}{0.42 \times R} \quad (\text{m})$$

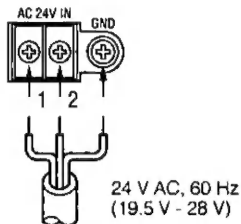
$$L_{\text{maximum}} = \frac{V_A - 10.5}{0.42 \times R} \quad (\text{m})$$

#### Caution:

To prevent fire or shock hazard, the UL listed wire VW-1, style 1007 should be used for the cable for DC 12V Input Terminal.

### C. WV-CP224

1. A power supply of 24V AC 60Hz is required.
2. Connect the power cable to the AC 24V In Terminal on the rear panel of the camera.



Recommended wire gauge sizes for 24V AC line.

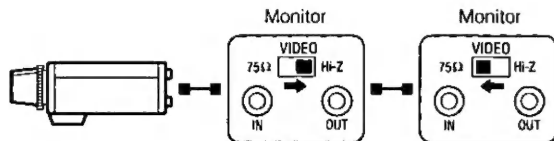
Copper wire size (AWG)		#24 (0.22mm <sup>2</sup> )	#22 (0.33mm <sup>2</sup> )	#20 (0.52mm <sup>2</sup> )	#18 (0.83mm <sup>2</sup> )
Length of Cable (Approx.)	(m)	95	150	255	425
	(ft)	314	495	842	1,403

#### Caution:

To prevent fire or shock hazard, the UL listed wire VW-1, style 1007 should be used for the cable for AC 24V Input Terminal.

### Video Cable

1. It is recommended to use a video monitor whose resolution is at least equal to the camera's.
2. Terminate the camera output with 75Ω resistor at the furthest end of its cable run.
  - A. Use 75Ω coaxial cable.
  - B. Always set the last monitor's termination switch to 75Ω, and set the termination switches of intermediate monitors to HIGH (Hi-z).



- C. The maximum extensible coaxial cable length between the camera and the monitor is shown in the table 1. Since cable quality varies among manufactures, please verify video quality before final installation, if maximum lengths are to be used.

**Table 1**

Type of coaxial cable		RG-59/U (3C-2V)	RG-6U (5C-2V)	RG-11/U (7C-2V)	RG-15/U (10C-2V)
Recommended maximum cable length	(m)	250	500	600	800
	(ft)	825	1,650	1,980	2,640

### 3. Wiring precautions:

- Do not bend coaxial cable into a curve whose radius is smaller than 10 times the cables diameter.
  - Never staple the cable-not even with circular staples. Mismatching will occur.
  - Never crush or pinch the cable.
- All of these will change the impedance of the cable and cause poor picture quality.

# LENSES

## 1. Selection of Lens

<Auto Iris Lenses>

Models Specifications	WV-LA2.8 (Wide Angle)	WV-LA6A (Wide Angle)	WV-LA12A (Standard)	WV-LA18 (Telephoto)	WV-LA36 (Telephoto)
Image Size	1/2" (6.4 (H) x 4.8 (V) mm)				
Focal Length	2.8 mm	6 mm	12 mm	18 mm	36 mm
Maximum Aperture Ratio	1 : 1.4	1 : 1.4	1 : 1.4	1 : 1.4	1 : 1.8
Angular Field of View 1/3"	H 87.5°	43.5°	22.2°	15.5°	7.7°
	V 69.2°	32.9°	16.7°	11.5°	5.7°
Focusing Range	Adjusted by Camera			0.27 m - ∞ (0.89 ft - ∞)	1 m - ∞ (3.3 ft - ∞)
Mount	CS-mount, 1"-32UN				
Filter Size	None	M37.5 mm P = 0.5	M37.5 mm P = 0.5	M37.5 mm P = 0.5	M37.5 mm P = 0.5
Dimensions	ø43 x 32 mm (ø1-11/16" x 1-1/4")	53(W) x 43(H) x 41.5(D) mm [2-1/16"(W) x 1-11/16" (H) x 1-5/8"(D)]	53(W) x 43(H) x 41.5(D) mm [2-1/16"(W) x 1-11/16" (H) x 1-5/8"(D)]	ø43 x 41 mm (ø1-11/16" x 1-5/8")	ø43 x 41 mm (ø1-11/16" x 1-5/8")
Weights	40g (0.09 lbs.)	45g (0.10 lbs.)	40g (0.09 lbs.)	70g (0.15 lbs.)	80g (0.18 lbs.)

- Dimensions and weights indicated are approximate.
- Specifications are subject to change without notice.

<Auto Iris Lenses>

Models Specifications		WV-LZ81/6A (Motorized Zoom)	WV-LZ81/10 (Motorized Zoom)	WV-LA4R5C3A (Wide Angle)	WV-LA9C3A (Standard)	WV-LZ61/10 (Motorized Zoom)
Image Size		1/2" (6.4 (H) x 4.8 (V) mm)		1/3" (4.8 (H) x 3.6 (V) mm)		
Focal Length		8.5 - 51 mm (6X)	8 - 80 mm (10X)	4.5 mm	9 mm	6 - 60 mm (10X)
Maximum Aperture Ratio		1 : 1.2 (Wide) 1 : 1.3 (Tele)	1 : 1.4 (Wide) 1 : 1.7 (Tele)	1 : 1.2	1 : 1.2	1 : 1.6 (Wide) 1 : 2.6 (Tele)
Angular Field of View 1/3"	H	Wide : 31.4° Tele : 5.5°	Wide : 33.5° Tele : 3.5°	56.4°	29.6°	Wide : 43.7° Tele : 4.6°
	V	Wide : 23.5° Tele : 4.1°	Wide : 25.2° Tele : 2.6°	43.3°	22.2°	Wide : 33.0° Tele : 3.5°
Focusing Range		1m - ∞ (3.3 ft - ∞)	1.1m - ∞ (3.6 ft - ∞)	Adjusted by Camera		1.2m - ∞ (4.0 ft - ∞)
Mount		CS-mount, 1"-32UN				
Filter Size		M49 mm, P = 0.75	M55 mm, P = 0.75	None		M35.5 mm, P = 0.5
Dimensions		86(W) x 62(H) 102(D) mm [3-3/8"(W) x 2-7/16"(H) x 4"(D)]	81(W) x 66(H) 117.5(D) mm [3-3/16"(W) x 2-5/8"(H) x 4-5/8"(D)]	ø43 x 38.5 mm (ø1-11/16" x 1-1/2")	ø43 x 38.5 mm (ø1-11/16" x 1-1/2")	71(W) x 52(H) 70.5(D) mm [2-13/16"(W) x 2-1/16" (H) x 2-3/4"(D)]
Weights		420g (0.93 lbs.)	440g (0.97 lbs.)	42g (0.09 lbs.)	40g (0.09 lbs.)	210g (0.46 lbs.)

- Dimensions and weights indicated are approximate.
- Specifications are subject to change without notice.

<Auto Iris Lenses>

Models Specifications		WV-LA4510 (Wide Angle)	WV-LA608 (Wide Angle)	WV-LA1208 (Standard)	WV-LZ83/6 (Motorized Zoom)
Image Size		1/2" (6.4 (H) x 4.8 (V) mm)			
Focal Length		4.5 mm	6 mm	12 mm	8.5 - 51 mm (6X)
Maximum Aperture Ratio		1 : 1.0	1 : 0.75	1 : 0.8	1 : 0.8 (Wide) 1 : 1.0 (Tele)
Angular Field of View 1/3"	H	56.9°	43.8°	23.8°	Wide : 31.3° Tele : 5.5°
	V	43.6°	33.1°	17.6°	Wide : 23.4° Tele : 4.1°
Focusing Range		Adjusted by Camera			1.2m - ∞ (4.0 ft - ∞)
Mount		CS-mount, 1"-32UN			
Filter Size		None	M46 mm, P = 0.75	M46 mm, P = 0.75	M67 mm, P = 0.75
Dimensions		54.5(W) x 43(H) x 43 (D) mm [2-1/8"(W) x 1-11/16"(H) x 1-1/16"(D)]	64(W) x 52(H) x 55 (D) mm [2-1/2"(W) 2-1/16"(H) x 2-3/16"(D)]	73(W) x 66(H) x 72.5(D) mm [2-7/8"(W) x 2-5/8"(H) x 2-7/8"(D)]	90(W) x 77(H) 123(D) mm [3-1/2"(W) x 3"(H) x 4-13/16"(D)]
Weights		85g (0.19 lbs.)	155g (0.34 lbs.)	255g (0.56 lbs.)	740g (1.63 lbs.)

- **When using the above lenses with the camera, be sure to read instruction manual of lenses.**
- Dimensions and weights indicated are approximate.
- Specifications are subject to change without notice.

<Auto Iris Lenses>

Specifications \ Models		WV-LA210C3 (Wide angle)	WV-LA408C3 (Wide angle)	WV-LA908C3 (Standard)
Image Size		1/3" (4.8(H) x 3.6(V) mm)		
Focal Length		2.1 mm	4.5 mm	9 mm
Maximum Aperture Ratio		1 : 1.0	1 : 0.75	1 : 0.75
Angular Field of View	H	107.6°	57.2°	31.3°
	V	88.0°	43.7°	23.5°
Focusing Range		Adjusted by Camera		
Mount		CS-mount, 1"-32UN		
Filter Size		None	M40.5 mm, P=0.5	M40.5 mm, P=0.5
Dimensions		62.5(W) x 52(H) x 41(D) mm [2-7/16"(W) x 2-1/16"(H) x 1-5/8"(D)]	62.5(W) x 52(H) x 57.5(D) mm [2-7/16"(W) x 2-1/16"(H) x 2-1/4"(D)]	62.5(W) x 52(H) x 57.5(D) mm [2-7/16"(W) x 2-1/16"(H) x 2-1/4"(D)]
Weight		110g (0.24 lbs.)	140g (0.31 lbs.)	135g (0.30 lbs.)

- **When using the above lenses with the camera, be sure to read instruction manual of lenses.**
- Dimensions and weights indicated are approximate.
- Specifications are subject to change without notice.

<Manual and Fixed Iris Lenses>

Models Specifications		WV-LM4R5A (Wide Angle)	WV-LF6 (Wide Angle)	WV-LF12 (Standard)	WV-LF4R5C3A (Wide Angle)	WV-LF9C3A (Standard)
Image Size		1/2" (6.4 (H) x 4.8 (V) mm)			1/3" (4.8 (H) x 3.6 (V) mm)	
Focal Length		4.5 mm	6 mm	12 mm	4.5 mm	9 mm
Maximum Aperture Ratio		1 : 1.4	1 : 1.4	1 : 1.4	1 : 1.2	1 : 1.2
Angular Field of View 1/3"	H	56.9°	43.5°	22.2°	56.4°	29.6°
	V	43.6°	32.9°	16.7°	43.3°	22.2°
Iris		Manual	Fixed	Fixed	Fixed	Fixed
Focusing Range		Adjusted by Camera				
Mount		CS-mount, 1"-32UN				
Filter Size		M37.5 mm, P = 0.5	M34 mm, P = 0.5	M34 mm, P = 0.5	M30.5 mm, P = 0.5	M30.5 mm, P = 0.5
Dimensions		ø44 x 41 mm (ø1-3/4" x 1-5/8")	ø38 x 41 mm (ø1-1/2" x 1-5/8")	ø38 x 41 mm (ø1-1/2" x 1-5/8")	ø34.4 x 36 mm (ø1-3/8" x 1-7/16")	ø34.4 x 36 mm (ø1-3/8" x 1-7/16")
Weights		93g (0.20 lbs.)	38g (0.08 lbs.)	33g (0.07 lbs.)	29g (0.06 lbs.)	23g (0.05 lbs.)

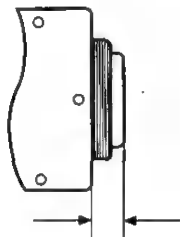
- Dimensions and weights indicated are approximate.
- Specifications are subject to change without notice.



## 2. Mounting the Lens

When you use the lens other than listed on pages 10, 11, 12, 13 and 14, lens mount should be C-mount or CS-mount and lens weight should be less than 450g (0.99 lbs.). If not, both the lens and camera should be secured.

The protrusion of the rear of the lens should be as shown below.



C-mount: Less than 11.5 mm (7/16")

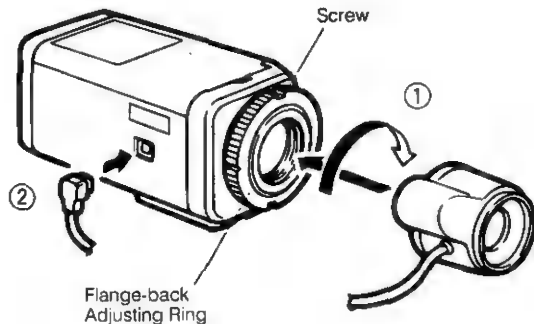
CS-mount: Less than 7.2 mm (1/4")

**Note:** To use the C-mount lens, the Lens Mount Converter (C-mount adaptor) WV-AD20 should be used with the camera.

### Caution:

Always set the Flange-back adjusting ring to fully clockwise by loosening screws on the ring before mounting the lens, otherwise the inner glass and CCD image sensor could be damaged by the lens.

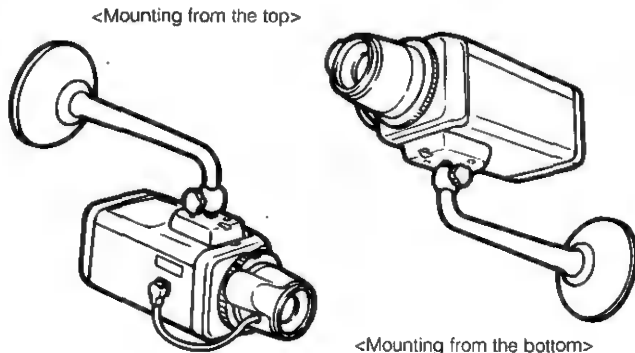
- (1) Mount the lens by turning it clockwise onto the lens mount of the camera.
- (2) Connect the lens cable to the Auto Iris Lens Connector on the camera when an auto iris lens is used.



## INSTALLATION OF CAMERA

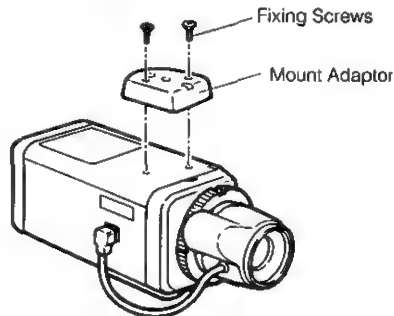
- **Mounting from the bottom**

This camera is originally designed to be mounted from the bottom, as shown. The hole is the standard photographic pan-head screw size (1/4" - 20).



- **Mounting from the top**

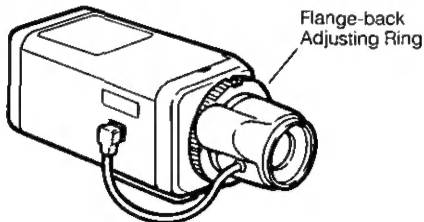
Remove the mount adaptor from the bottom of the camera by removing two fixing screws. Attach the mount adaptor to the top as shown in the diagram, then mount the camera on the mounting bracket. Make sure that two original screws are used when mounting the mount adaptor; longer type screws may damage inner components.



## FOCUS OR FLANGE-BACK ADJUSTMENT

The following adjustment should be made by qualified service personnel or system installers.

1. Loosen screws on the flange-back adjusting ring.



2. Turn the flange-back adjusting ring to the desired position.

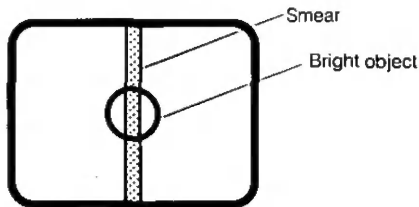
**Caution:** Do not turn this ring too much to counter-clockwise as this could damage the inner glass and CCD image sensor.

3. Tighten the screws on the flange-back adjusting ring.

**Note:** Do not apply the extreme torque (5 kg.cm is recommended) to the screw on the Flange-back Adjusting Ring.

## PREVENTION OF BLOOMING AND SMEAR

When the camera is faced toward spot light or other bright lights and light reflecting objects, smear or blooming may appear. Therefore, the camera should be operated carefully in the vicinity of extremely bright objects to avoid smear or blooming.



## LENS MAINTENANCE AND CLEANING

1. Remove the lens connector.
2. Remove the lens, and inspect the camera CCD faceplate through the lens mount opening to assure that the faceplate is free of smudges or particles of dirt.
3. Clean the CCD faceplate, if necessary, using lens tissue or a cotton tipped applicator and ethanol.
4. Install the new lens.

## SPECIFICATIONS

Pick-up Device:	512 (H) x 492 (V) pixels, Interline Transfer CCD
Scanning Area:	4.8 (H) x 3.6 (V) mm (Equivalent to scanning area of 1/3" pick-up tube)
Synchronization:	Internal, Line-locked or Multiplexed Vertical Drive (VD2) Selectable
Scanning System:	2 : 1 interlace
Scanning:	525 lines / 60 fields / 30 frames
Horizontal:	15.734 kHz
Vertical:	59.94 Hz
Horizontal Resolution:	330 lines
Video Output:	1.0 V[p-p] composite 75 $\Omega$ / BNC connector
Signal-to-Noise Ratio:	46 dB (AGC OFF, weight ON)
Electronic Light Control:	Equivalent to continuous variable shutter speed between 1/60s. and 1/15,700s
Minimum Illumination:	0.5 lx at F0.75 [Equivalent to 1.5 lx at F1.4]
Detail:	Selectable SHARP or SOFT
Lens Mount:	CS-mount
Ambient Operating Temperature:	-10°C -+50°C (14°F - 122°F)
Ambient Operating Humidity:	Less than 90%
Power Source:	WV-CP220: 120V AC 60 Hz WV-CP222: 12V DC WV-CP224: 24V AC 60 Hz

Power consumption:	WV-CP220:	3.5W
	WV-CP222:	0.26A
	WV-CP224:	3.5W
Dimensions (without lens):	67 (W) x 65 (H) x 118 (D) mm	
	[2-5/8" (W) x 2-9/16" (H) x 4-5/8" (D)]	
Weights (without lens):	WV-CP220:	610g. (1.3 lbs)
	WV-CP222:	420g. (0.9 lbs)
	WV-CP224:	450g. (1.0 lbs)

Weights and dimensions indicated are approximate.  
Specifications are subject to change without notice.

## STANDARD ACCESSORY

Body Cap .....1 pc.

## OPTIONAL ACCESSORIES

Lenses : WV-LA2.8, WV-LA6A, WV-LA12A, WV-LA18, WV-LA36, WV-LA4510, WV-LA608, WV-LA1208,  
WV-LA4R5C3A, WV-LA9C3A, WV-LA210C3, WV-LA408C3, WV-LA908C3, WV-LZ81/6A, WV-LZ81/10,  
WV-LZ83/6, WV-LZ61/10, WV-LM4R5A, WV-LF6, WV-LF12, WV-LF4R5C3A, WV-LF9C3A

Lens Mount Converter (C-mount Adaptor) : WV-AD20

# Panasonic

**Broadcast & Television Systems Company**

**Division of Matsushita Electric Corporation of America**

## **IMAGING SYSTEMS DIVISION**

**Executive Office:** One Panasonic Way 3E-7, Secaucus, New Jersey 07094

### **Regional Offices:**

**Northeast:** 43 Hartz Way, Secaucus, NJ 07094 (201) 348-7303

**Southeast:** 1225 Northbrook Parkway, Suite 1-160, Suwanee, GA 30174 (770) 338-6835

**Midwest:** 1707 North Randall Road, Elgin, IL 60123 (708) 468-5200

**Southwest:** 4500 Amon Carter Blvd., Fort Worth, TX 76155 (817) 685-1117

**Western:** 6550 Katella Ave. 17A-5, Cypress, CA 90630 (714) 373-7265

### **MATSUSHITA ELECTRIC OF CANADA LIMITED**

5770 Ambler Drive, Mississauga, Ontario, L4W 2T3 Canada (905)624-5010

### **PANASONIC SALES COMPANY**

### **DIVISION OF MATSUSHITA ELECTRIC OF PUERTO RICO, INC.**

San Gabriel Industrial Park, 65th Infantry Ave. KM. 9.5 Carolina, Puerto Rico 00630 (809)750-4300